



WHAT IS CLAIMED IS:

- 1  1. A system, comprising:
2 a speech recognition processor that receives unconstrained input speech and
3 outputs a string of words that can include a numeric language; and
4 a numeric understanding processor that converts the string of words into a
5 sequence of digits.

- 1 2. The system of claim 1, further comprising:
an acoustic model database utilized by the speech recognition processor.

- 1 3. The system of claim 2, wherein the acoustic model comprises:
2 a first set of hidden Markov models that characterize the numeric language; and
3 a second set of hidden Markov models that characterize the remaining language
4 in the vocabulary.

- 1 4. The system of claim 3, further comprising:
2 a set of filler models that characterizes out-of-vocabulary features.

- 1  5. The system of claim 1, further comprising:
2 an utterance verification processor that verifies the accuracy of the numeric
3 language in the string of words.

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1 6. The system of claim 1, further comprising:
2 a validity database that stores a grammar; and
3 a string validation processor that outputs validity information based on a
4 comparison of the sequence of digits with the grammar.

1 7. The system of claim 6, further comprising:
2 a dialogue manager processor that initiates an action based on the validity
3 information.

1 8. The system of claim 1, further comprising:
2 a language model database that emphasizes the numeric language utilized by
3 the speech recognition processor.

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1 9. The system of claim 1, wherein:
2 the numeric understanding processor converts the string of words into the
3 sequence of digits based on a set of rules.

1 10. A method, comprising the steps of:
2 receiving unconstrained input speech and outputting a string of words that can
3 include a numeric language; and
4 converting the string of words into a sequence of digits.

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